1. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$20x^2 - 81x + 81 = 0$$

A. $x_1 \in [1.7, 1.9]$ and $x_2 \in [2, 3.75]$

B. $x_1 \in [0.69, 0.84]$ and $x_2 \in [4.7, 6.1]$

C. $x_1 \in [0.47, 0.65]$ and $x_2 \in [5.74, 7.32]$

D. $x_1 \in [35.93, 36.06]$ and $x_2 \in [44.58, 45.52]$

E. $x_1 \in [0.37, 0.51]$ and $x_2 \in [8.3, 10.3]$

---

2. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$36x^2 - 47x + 15$$

A. $a \in [26.9, 28.3], \quad b \in [-7, -2], \quad c \in [-1.1, 3.4]$, and $\quad d \in [-8, 4]$

B. $a \in [8.3, 9.1], \quad b \in [-7, -2], \quad c \in [1.5, 4.9]$, and $\quad d \in [-8, 4]$

C. $a \in [2.5, 7.2], \quad b \in [-7, -2], \quad c \in [6.4, 8.6]$, and $\quad d \in [-8, 4]$

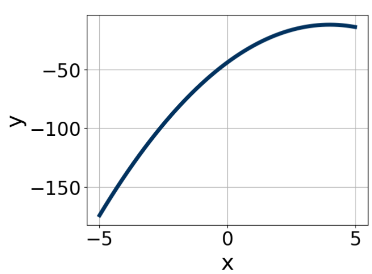
D. $a \in [-1.6, 1.4], \quad b \in [-33, -24], \quad c \in [-1.1, 3.4]$, and $\quad d \in [-20, -19]$

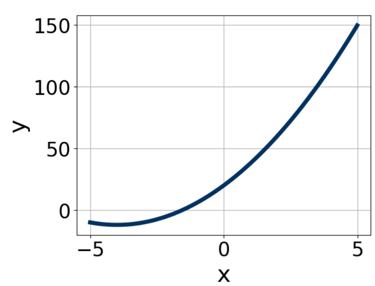
E. None of the above.

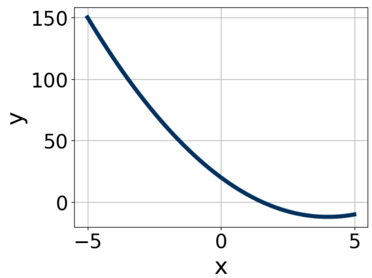
---

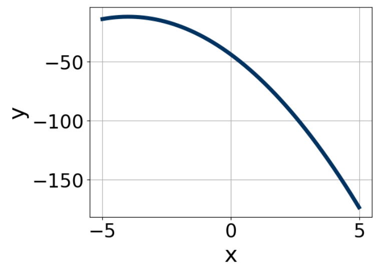
3. Graph the equation below.

$$f(x) = -(x + 4)^2 - 12$$

A. 

B. 

C. 

D. 

E. None of the above.

---

4. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax+b)(cx+d); b \leq d$.

$$36x^2 + 60x + 25$$

A. $a \in [4.6, 7.7], \quad b \in [3, 7], \quad c \in [5.5, 6.3], \text{ and } \quad d \in [5, 12]$

B. $a \in [2, 5.9], \quad b \in [3, 7], \quad c \in [10.2, 14.5], \text{ and } \quad d \in [5, 12]$

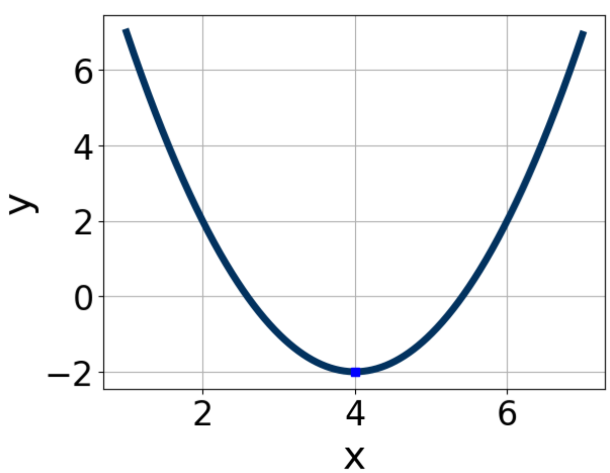
C. $a \in [0.1, 1.2], \quad b \in [21, 33], \quad c \in [-1.6, 1.6], \text{ and } \quad d \in [26, 40]$

D. $a \in [10.1, 13.4], \quad b \in [3, 7], \quad c \in [2.7, 3.7], \text{ and } \quad d \in [5, 12]$

E. None of the above.

---

5. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [1, 7], \quad b \in [-9, -5], \text{ and } \quad c \in [11, 15]$

B. $a \in [1, 7], \quad b \in [7, 9], \text{ and } \quad c \in [15, 20]$

C. $a \in [-3, 0], \quad b \in [7, 9], \text{ and } \quad c \in [-19, -17]$

D. $a \in [-3, 0], \quad b \in [-9, -5], \text{ and } \quad c \in [-19, -17]$

E. $a \in [1, 7], \quad b \in [7, 9], \text{ and } \quad c \in [11, 15]$

---

6. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-19x^2 + 8x + 2 = 0$$

A. $x_1 \in [-11.46, -11.16]$ and $x_2 \in [3.2, 3.42]$

B. $x_1 \in [-0.45, -0.08]$ and $x_2 \in [0.35, 0.79]$

C. $x_1 \in [-14.57, -14.06]$ and $x_2 \in [14.54, 15.14]$

D. $x_1 \in [-0.88, -0.54]$ and $x_2 \in [-0.02, 0.31]$

E. There are no Real solutions.

---

7. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$13x^2 - 10x - 2 = 0$$

A. $x_1 \in [-2.52, -1.09]$ and $x_2 \in [11.78, 12.16]$

B. $x_1 \in [-1.11, -0.77]$ and $x_2 \in [-0.53, 0.3]$

C. $x_1 \in [-14.1, -13.45]$ and $x_2 \in [14.46, 15.58]$

D. $x_1 \in [-0.62, 0.01]$ and $x_2 \in [0.92, 1.01]$

E. There are no Real solutions.

---

8. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$10x^2 - 57x + 54 = 0$$

A. $x_1 \in [11.46, 12.14]$ and $x_2 \in [44.94, 46.17]$

B. $x_1 \in [0.76, 1.06]$ and $x_2 \in [5.46, 6.34]$

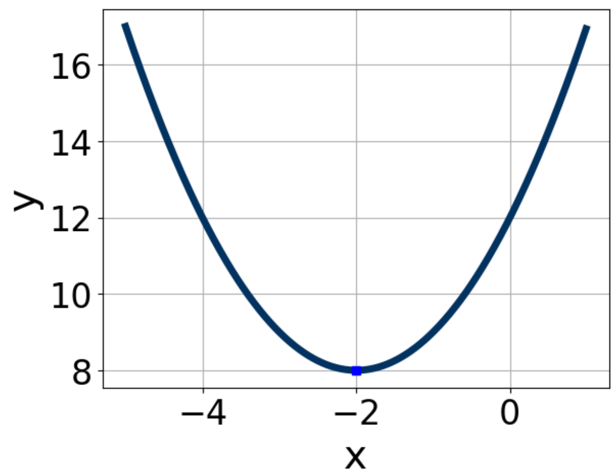
C. $x_1 \in [1.48, 1.53]$ and $x_2 \in [1.82, 4.42]$

D. $x_1 \in [0.99, 1.31]$ and $x_2 \in [4.31, 4.7]$

E. $x_1 \in [0.13, 0.65]$ and $x_2 \in [8.76, 9.75]$

---

9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-0.6, 1.3], \quad b \in [-6, -3], \text{ and } \quad c \in [11, 13]$

B. $a \in [-1.1, 0.2], \quad b \in [-6, -3], \text{ and } \quad c \in [3, 6]$

C. $a \in [-0.6, 1.3], \quad b \in [-6, -3], \text{ and } \quad c \in [-4, -1]$

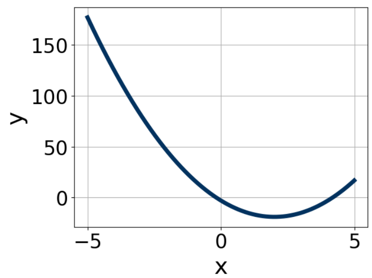
D. $a \in [-1.1, 0.2], \quad b \in [1, 6], \text{ and } \quad c \in [3, 6]$

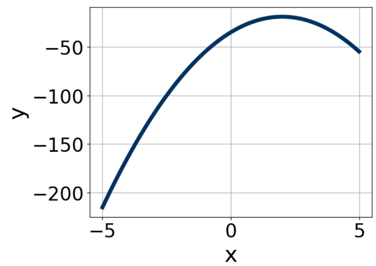
E. $a \in [-0.6, 1.3], \quad b \in [1, 6], \text{ and } \quad c \in [11, 13]$

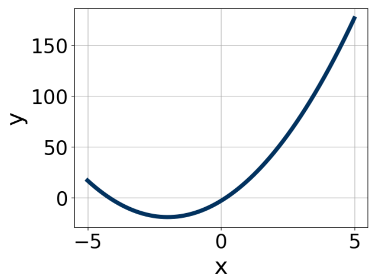
---

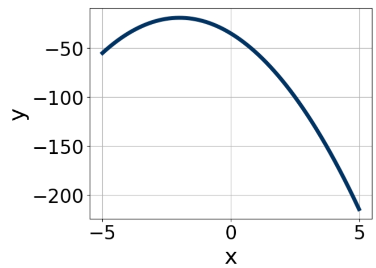
10. Graph the equation below.

$$f(x) = -(x-2)^2 - 19$$

A. 

C. 

B. 

D. 

E. None of the above.